Eye and Face Protection

Thousands of people are blinded each year from work-related eye injuries. According to the Bureau of Labor Statistics (BLS), nearly three out of five workers are injured while failing to wear eye and face protection.

Eye and Face Protection

Are you in danger of becoming a statistic?

Are you wearing the proper protective equipment?

What is your employer’s responsibility?

OSHA Requirements

- OSHA Standards
- Training and Qualifications
- Criteria for PPE
- Contacts and Prescription (Rx) Lenses
- Protecting Employees from Workplace Hazards

OSHA Standards

The following OSHA standards provide mandatory requirements and compliance assistance for employers when selecting proper eye and face protection:

- 1910.132 - General requirements
- 1910.133 - General Industry
- 1915.153 - Maritime
- 1926.102 - Construction
- 1910.252 - Welding, Cutting, and Brazing

Training and Qualification

1910.132(f), Employees shall be trained to know at least the following:

- When PPE is necessary
- What PPE is necessary
- How to properly don, doff, adjust, and wear PPE
- The limitations of the PPE
- The proper care, maintenance, useful life, and disposal of the PPE

Training and Qualification

Retraining is required, but not limited to, the following situations:

- Changes in the workplace
- Changes in the types of PPE to be used
- Inadequacies in an affected employee's knowledge or use of assigned PPE indicate that the employee has not retained the requisite understanding or skill

PPE Requirements

Eye and face protection must comply with the American National Standards Institute, ANSI Z87.1-1989 if purchased after July 5, 1994, or ANSI Z87.1-1968 if purchased before July 5, 1994.

- 1910.133(b)(1)
- 1915.153(b)
- 1926.102(a)

PPE Requirements

Protectors must:

- Provide adequate protection against the particular hazards for which they are designed [1926.102(a)(6)];
- Be of safe design and construction for the work to be performed [1910.132(c)];
- Be reasonably comfortable [1926.102(a)(6)(ii)];
- Fit snugly and shall not unduly interfere with the movements of the wearer [1926.102(a)(6)(iii)];
- Be durable [1926.102(a)(6)(iv)];
- Be capable of being disinfected [1926.102(a)(6)(v)];
- Be easily cleanable [1926.102(a)(6)(vi)];
- Be distinctly marked [1910.133(a)(4), 1926.102(a)(7)]

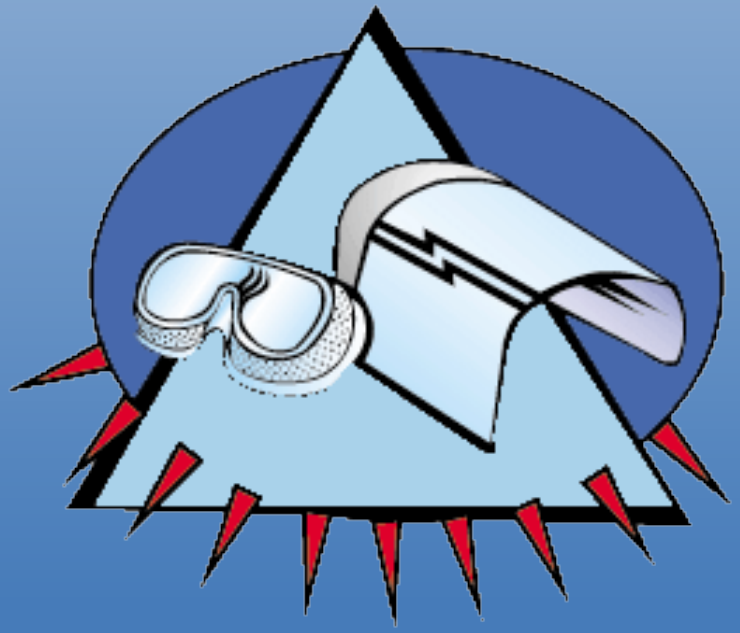
Contacts and Rx Lenses

Employers must ensure that employees who wear prescription (Rx) lenses or contacts use PPE that incorporates the prescription or use eye protection that can be worn over prescription lenses.

- 1910.133(a)(3)
- 1915.153(a)(3)
- 1926.102(a)(3)

Protecting Employees from Workplace Hazards

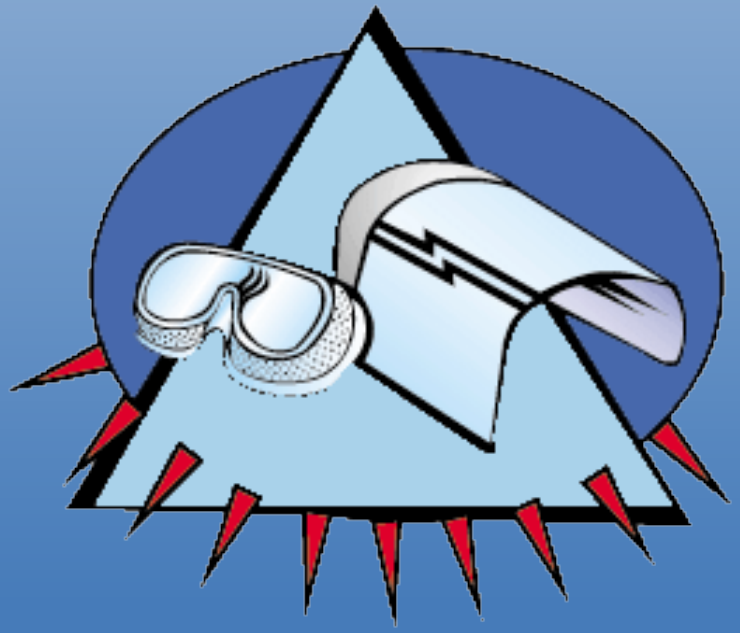
Employees must be provided with eye and face protection equipment when machines or operations present potential eye or face injury from physical, chemical, or radiation agents. [1926.102(a)(1)]



Protecting Employees from Workplace Hazards

PPE devices alone should not be relied on to provide protection against hazards, but should be used in conjunction with guards, engineering controls, and sound manufacturing practices.

(1910 Subpart I Appendix B)



Selecting PPE for the Workplace

The employer must assess the workplace and determine if hazards that necessitate the use of eye and face protection are present, or are likely to be present, before assigning PPE to workers.

A hazard assessment determines the risk of exposure to eye and face hazards, including emergency situations.

- 1910.132(a)
- 1915.153(a)(1)
- 1910.133(a)(1)
- 1926.153(a)(1)

Hazard Assessment

Hazard Type	Hazard Type	Common related tasks
Impact	Flying objects such as large chips, fragments, particles, sand, and dirt.	Chipping, grinding, machining, masonry work, wood working, sawing, drilling, riveting, sanding, etc.
Heat	Anything emitting extreme heat.	Furnace operations, pouring, casting, hot dipping, welding, etc.
Chemicals	Splash, fumes, vapors, and irritating mists.	Acid and chemical handling, degreasing, plating, and working with blood.
Dust	Harmful dust.	Woodworking, buffing, and general dusty conditions.
Optical Radiation	Radiant energy, glare, and intense light	Welding, torch-cutting, -brazing, -soldering, and laser work.

Impact Hazards: Safety Spectacles

Safety spectacles are intended to shield the wearer's eyes from impact hazards such as flying fragments, objects, large chips, and particles.

Workers are required to use eye safety spectacles with side shields when there is a hazard from flying objects.

1910.133(a)(2) 1915.153(a)(2)

Impact Hazards: Safety Goggles

Safety goggles are intended to shield the wearer's eyes from impact hazards such as flying fragments, objects, large chips, and particles.

Goggles fit the face immediately surrounding the eyes and form a protective seal around the eyes. This prevents objects from entering under or around the goggles.

Impact Hazards: Face Shields

Face shields are intended to protect the entire face, or portions thereof, from impact hazards such as flying fragments, objects, large chips, and particles.

When worn alone, face shields *do not* protect employees from impact hazards. Use face shields in combination with safety spectacles or goggles for additional protection.

Heat Hazards: Safety Spectacles

Safety spectacles with side shields are used as primary protection to shield the eyes from heat hazards.

To adequately protect the eyes and face from high temperature exposure, use safety spectacles in combination with a heat-reflective face shield.

Heat Hazards: Safety Goggles

Safety goggles are used as primary protection to shield the eyes from heat hazards. Goggles form a protective seal around the eyes, preventing objects or liquids from entering under or around the goggles. This is especially important when working with or around molten metals that may splash.

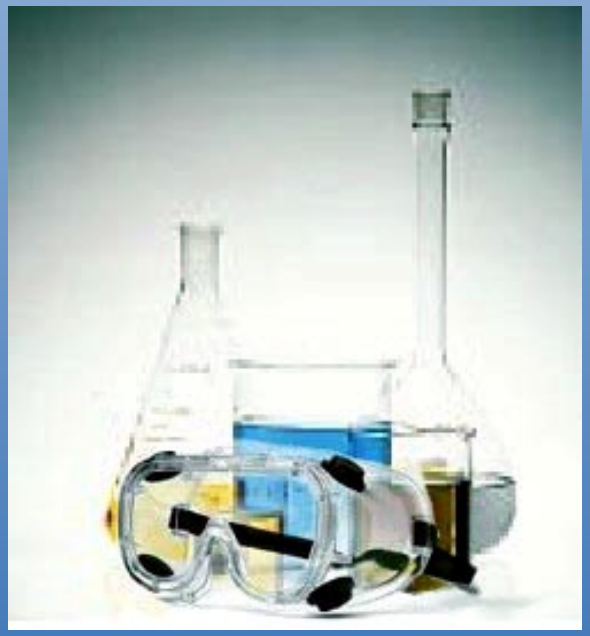
Heat Hazards: Face Shields

Heat-reflective and wire-screen face shields are intended to shield the entire face from a range of heat hazards.

Face shields are considered secondary protectors to be used *in addition* to primary protection such as safety spectacles or goggles.

Chemical Hazards: Safety Goggles

Safety goggles protect the eyes, eye sockets, and the facial area immediately surrounding the eyes from a variety of chemical hazards. Goggles form a protective seal around the eyes, preventing objects or liquids from entering under or around the goggles.



Chemical Hazards: Face Shields

Face shields are intended to protect the entire face from a variety of chemical hazards.

All face shields are considered secondary protection and must be used *in addition* to safety goggles to provide adequate protection.

Dust Hazards: Safety Goggles

Goggles form a protective seal around the eyes, preventing nuisance dust from entering under or around the goggles. Ventilation should be adequate, but well protected from dust entry.

Optical Radiation: Filter Lenses

Wearing protection with the correct filter shade number is required to protect workers' eyes from optical radiation. When selecting PPE, consider the type and degree of radiant energy in the workplace.

- 1910.133(a)(5) -General Industry
- 1915.153 (a)(4) -Maritime
- 1926.102(b)(1) -Construction

Optical Radiation: Welding

Welding helmets are secondary protectors intended to shield the eyes and face from optical radiation, heat, and impact.

Use welding helmets *in addition* to primary protection such as safety spectacles or goggles to provide adequate protection.

Optical Radiation: Lasers

Workers with exposure to laser beams must be furnished suitable laser safety goggles which will:

- Protect for the specific wavelength of the laser
- Be of optical density adequate for the energy involved

[1926.102(b)(2)]

Optical Radiation: Glare

Control Glare with:

- Special-Purpose Spectacles that include filter or special-purpose lenses to provide protection against eye strain.
- Changes in your work area or lighting
- Tinted eyeglass lenses or visor-type shade

Eye and Face Protection

When employees are trained to work safely they should be able to anticipate and avoid injury from job-related hazards.